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* * * * * Welcome to STN International * * * * *

| | | | |
|------|----|--------|---|
| NEWS | 1 | | Web Page for STN Seminar Schedule - N. America |
| NEWS | 2 | DEC 01 | ChemPort single article sales feature unavailable |
| NEWS | 3 | JUN 01 | CAS REGISTRY Source of Registration (SR) searching enhanced on STN |
| NEWS | 4 | JUN 26 | NUTRACEUT and PHARMAML no longer updated |
| NEWS | 5 | JUN 29 | IMSCOPROFILE now reloaded monthly |
| NEWS | 6 | JUN 29 | EPFULL adds Simultaneous Left and Right Truncation (SLART) to AB, MCLM, and TI fields |
| NEWS | 7 | JUL 09 | PATDPAFULL adds Simultaneous Left and Right Truncation (SLART) to AB, CLM, MCLM, and TI fields |
| NEWS | 8 | JUL 14 | USGENE enhances coverage of patent sequence location (PSL) data |
| NEWS | 9 | JUL 27 | CA/CAPLUS enhanced with new citing references |
| NEWS | 10 | JUL 16 | GBFULL adds patent backfile data to 1855 |
| NEWS | 11 | JUL 21 | USGENE adds bibliographic and sequence information |
| NEWS | 12 | JUL 28 | EPFULL adds first-page images and applicant-cited references |
| NEWS | 13 | JUL 28 | INPADOCDB and INPAFAMDB add Russian legal status data |
| NEWS | 14 | AUG 10 | Time limit for inactive STN sessions doubles to 40 minutes |
| NEWS | 15 | AUG 17 | CAS REGISTRY, the Global Standard for Chemical Research, Approaches 50 Millionth Registration Milestone |
| NEWS | 16 | AUG 18 | COMPENDEX indexing changed for the Corporate Source (CS) field |
| NEWS | 17 | AUG 24 | ENCOMPLIT/ENCOMPLIT2 reloaded and enhanced |
| NEWS | 18 | AUG 24 | CA/CAPLUS enhanced with legal status information for U.S. patents |

NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4,
AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 21:11:07 ON 06 SEP 2009

=> file reg

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST | 0.22 | 0.22 |

FILE 'REGISTRY' ENTERED AT 21:11:14 ON 06 SEP 2009

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STRUCTURE FILE UPDATES: 4 SEP 2009 HIGHEST RN 1180743-67-2

DICTIONARY FILE UPDATES: 4 SEP 2009 HIGHEST RN 1180743-67-2

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TSCA INFORMATION NOW CURRENT THROUGH June 26, 2009.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> s ibandronic

L1 1 IBANDRONIC

=> d 11

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN

RN 114084-78-5 REGISTRY

ED Entered STN: 23 Apr 1988

CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis- (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Phosphonic acid, [1-hydroxy-3-(methylpentylamino)propylidene]bis- (9CI)

OTHER NAMES:

CN BPH 24

CN Ibandronate

CN Ibandronic acid

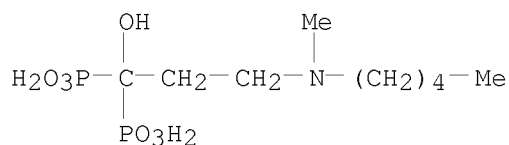
CN [1-Hydroxy-3-(methylpentylamino)propylidene]diphosphonic acid

MF C9 H23 N O7 P2

CI COM

SR CA

LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO,
 CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CIN, CSCHEM, DDFU, DRUGU, EMBASE,
 IMSDRUGNEWS, IMSPATENTS, IMSPRODUCT, IMSRESEARCH, IPA, MEDLINE, MRCK*,
 PHAR, PROMT, PROUSDDR, PS, RTECS*, SYNTHLINE, TOXCENTER, USAN, USPAT2,
 USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: WHO



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

723 REFERENCES IN FILE CA (1907 TO DATE)
 29 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 726 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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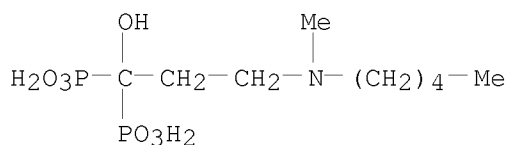
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=> s 138926-19-9
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 (138926-19-9/RN)

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L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
 RN 138844-81-2 REGISTRY
 ED Entered STN: 07 Feb 1992
 CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-,
 sodium salt (1:1) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Phosphonic acid, [1-hydroxy-3-(methylpentylamino)propylidene]bis-,
 monosodium salt (9CI)
 OTHER NAMES:
 CN BM 21.0955
 CN BM 21.0955Na
 CN Bondronat
 CN Bondronate
 CN Boniva
 CN Bonviva
 CN Ibandronate sodium
 MF C9 H23 N O7 P2 . Na
 CI COM

SR CA
 LC STN Files: ADISINSIGHT, ADISNEWS, ANABSTR, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMCATS, CIN, DDFU, DRUGU, EMBASE, IMSCOSEARCH, IMSPATENTS, IMSRESEARCH, MRCK*, PROMT, PROUSDDR, PS, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
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● Na

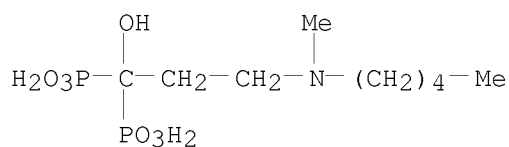
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 87 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
 RN 138926-19-9 REGISTRY
 ED Entered STN: 14 Feb 1992
 CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt, hydrate (1:1:1) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Phosphonic acid, [1-hydroxy-3-(methylpentylamino)propylidene]bis-, monosodium salt, monohydrate (9CI)
 OTHER NAMES:
 CN BM 21.0955Na.H2O
 CN Ibandronate sodium monohydrate
 CN Monosodium ibandronate monohydrate
 MF C9 H23 N O7 P2 . H2 O . Na
 SR CAS Client Services
 LC STN Files: ADISINSIGHT, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CSCHEM, EMBASE, IMSPATENTS, IMSRESEARCH, MRCK*, PATDPASPC, PROUSDDR, PS, SYNTHLINE, TOXCENTER, USAN, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 CRN (114084-78-5)



● Na

● H₂O

25 REFERENCES IN FILE CA (1907 TO DATE)
25 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> file caplus
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| SINCE FILE | TOTAL |
|------------|---------|
| ENTRY | SESSION |
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FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 21:14:12 ON 06 SEP 2009
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FILE COVERS 1907 - 6 Sep 2009 VOL 151 ISS 11
FILE LAST UPDATED: 4 Sep 2009 (20090904/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2009

CAPLUS now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2009.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

The ALL, BIB, MAX, and STD display formats in the CA/CAPLUS family of databases have been updated to include new citing references information. This enhancement may impact record import into database management software. For additional information, refer to NEWS 9.

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      25 L4
L5      106 L3 OR L4
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=> s amorphous
L6      301133 AMORPHOUS
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=> s 15 and 16
L7      5 L5 AND L6
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AN  2009:876533  CAPLUS
DN  151:181953
TI  Solid and crystalline ibandronate sodium and processes for preparation
    thereof
IN  Lifshitz-Liron, Revital; Bayer, Thomas; Aronhime, Judith; Pinchasov,
    Michael
PA  Teva Pharmaceutical Industries Ltd., Israel
SO  U.S., 32pp., Cont. of U.S. Ser. No. 410,825. now abandoned.
    CODEN: USXXAM
DT  Patent
LA  English
FAN.CNT 2
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| | | | | US 2005-690867P | P 20050616 |
| | | | | US 2005-211062 | B1 20050823 |
| | | | | US 2006-410825 | B1 20060424 |
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| | | | | EP 2005-791142 | A 20050823 |
| | EP 1930011 | A2 | 20080611 | EP 2008-2626 | 20050823 |
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| | | | | EP 2005-791142 | A3 20050823 |

PATENT FAMILY INFORMATION:

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FAN 2006:333490
PATENT NO.      KIND      DATE      APPLICATION NO.      DATE
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PI  WO 2006024024      A2      20060302      WO 2005-US30500      20050823
    WO 2006024024      A3      20060629
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CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

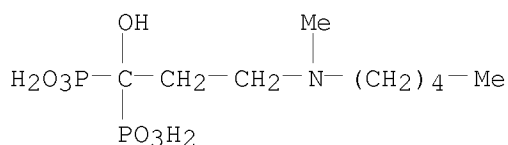
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| | | | US 2004-604026P | P | 20040823 |
| | | | US 2005-690867P | P | 20050616 |
| CA 2576659 | A1 | 20060302 | CA 2005-2576659 | | 20050823 |
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| JP 2007512237 | T | 20070517 | JP 2006-536948 | | 20050823 |
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| CN 101022812 | A | 20070822 | CN 2005-80028503 | | 20050823 |
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| | | | WO 2005-US30500 | W | 20050823 |
| MX 2007002286 | A | 20080828 | MX 2007-2286 | | 20070222 |
| | | | US 2004-604026P | P | 20040823 |
| | | | US 2005-690867P | P | 20050616 |
| | | | WO 2005-US30500 | W | 20050823 |
| KR 2007043043 | A | 20070424 | KR 2007-705922 | | 20070314 |
| | | | US 2004-604026P | P | 20040823 |
| | | | US 2005-690867P | P | 20050616 |
| | | | WO 2005-US30500 | W | 20050823 |

AB The present invention relates to solid amorphous and crystalline forms of ibandronate sodium. Thus, a solution of NaOH (0.63 g) in water/isopropanol (IPA) was added dropwise to a solution of amorphous ibandronic acid (5 g) in water/IPA at reflux temperature, and the reaction mixture

maintained at reflux temperature for 4 h to obtain a pH of 3.93-4.01. The reaction mixture was then cooled to room temperature, stirred for 72 h, and further cooled using an ice-bath. The precipitate was filtered, washed, and dried in a vacuum oven at 50° to give 4.4 g of ibandronate sodium crystal form F.

IT 138844-81-2P, Ibandronate sodium
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
 (preparation of solid amorphous and crystalline ibandronate sodium)
 RN 138844-81-2 CAPLUS
 CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt (1:1) (CA INDEX NAME)



● Na

OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
 RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

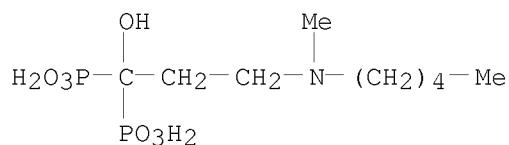
L7 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2007:724495 CAPLUS
 DN 147:125584
 TI Novel polymorphic forms of ibandronate for tablets
 IN Reddy, Muddasani Pulla; Usharani, Vattikuti; Chowdary, Nannapaneni Venkalah
 PA Natco Pharma Limited, India
 SO PCT Int. Appl., 15 pp.
 CODEN: PIXXD2

DT Patent
 LA English

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
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| WO 2007074475 | A2 | 20070705 | WO 2006-IN501 | 20061221 |
| WO 2007074475 | A3 | 20070907 | | |
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IN 2005-CH1936 A 20070720 IN 2005-CH1936 A 20051227
 IN 2005CH01936 A 20070720 IN 2005-CH1936 20051227
 AB The present invention relates to novel and stable polymorphic forms of ibandronate monosodium monohydrate and processes for their preparation and pharmaceutical compns. containing them, such as tablets. Ibandronate monosodium monohydrate is useful as bone resorption inhibitor. The novel crystalline forms are designated as Form I, Form II and the amorphous ibandronate monosodium monohydrate as Form III. Thus, the reaction of 100 g of 3-(N-methyl-N-pentylamino)propionic acid-HCl and 49 g of crystalline phosphorous acid at 75°, followed by the addition of phosphorous trichloride and adjusting the pH to 4.3-4.4 using NaOH yielded 145 g of ibandronate. Ibandronate prepared (25 g) was dissolved in 200 mL of water, water was distilled off from the reaction mass and 100 mL of fresh water was added. The reaction mass was treated with 2 g of carbon and filtered. To the filtrate 200 mL of acetone were added at 50-60° resulting in immediate crystallization of ibandronate. The reaction mass was cooled to 25° and maintained for 1 h before filtration. The wet solid was washed with acetone and dried at 60° to get 20 g of Form I crystals of ibandronate monosodium monohydrate. Form I crystals of ibandronate monosodium monohydrate prepared were formulated into tablets containing equivalent to 150 mg of ibandronic acid per single dosage unit.
 IT 138926-19-9P, Ibandronate sodium monohydrate
 RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
 (preparation of polymorphic forms of ibandronate monosodium monohydrate for tablets)
 RN 138926-19-9 CAPLUS
 CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt, hydrate (1:1:1) (CA INDEX NAME)



● Na

● H₂O

OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L7 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2006:333490 CAPLUS
 DN 144:338225
 TI Preparation of solid and crystalline ibandronate sodium
 IN Lifshitz-Liron, Revital; Bayer, Thomas; Aronhime, Judith
 PA Teva Pharmaceutical Industries Ltd., Israel; Teva Pharmaceutical Usa, Inc.
 SO PCT Int. Appl., 67 pp.

CODEN: PIXXD2

DT Patent
LA English
FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
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| PI | WO 2006024024 | A2 | 20060302 | WO 2005-US30500 | 20050823 |
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| CA | 2576659 | A1 | 20060302 | CA 2005-2576659 | 20050823 |
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| | | | | US 2004-604026P | P 20040823 |
| | | | | US 2005-690867P | P 20050616 |
| | | | | EP 2005-791142 | A 20050823 |
| EP | 1930011 | A2 | 20080611 | EP 2008-2626 | 20050823 |
| EP | 1930011 | A3 | 20080618 | | |
| | R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR | | | | |
| | | | | US 2004-604026P | P 20040823 |
| | | | | US 2005-690867P | P 20050616 |
| | | | | EP 2005-791142 | A3 20050823 |
| IN | 2007DN00555 | A | 20070817 | IN 2007-DN555 | 20070122 |
| | | | | US 2004-604026P | P 20040823 |
| | | | | WO 2005-US30500 | W 20050823 |
| MX | 2007002286 | A | 20080828 | MX 2007-2286 | 20070222 |
| | | | | US 2004-604026P | P 20040823 |
| | | | | US 2005-690867P | P 20050616 |

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|---------------|---|----------|-----------------|---|----------|
| KR 2007043043 | A | 20070424 | WO 2005-US30500 | W | 20050823 |
| | | | KR 2007-705922 | | 20070314 |
| | | | US 2004-604026P | P | 20040823 |
| | | | US 2005-690867P | P | 20050616 |
| | | | WO 2005-US30500 | W | 20050823 |

PATENT FAMILY INFORMATION:

FAN 2009:876533

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|----------------|------|----------|-----------------|----------|
| PI | US 7563918 | B2 | 20090721 | US 2006-644568 | 20061222 |
| | US 20070179119 | A1 | 20070802 | | |

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| | | | | US 2004-604026P | P | 20040823 |
| | | | | US 2005-690867P | P | 20050616 |
| | | | | US 2005-211062 | B1 | 20050823 |
| | | | | US 2006-410825 | B1 | 20060424 |
| | DE 202005021414 | U1 | 20080424 | DE 2005-202005021414 | | 20050823 |
| | | | | US 2004-604026P | P | 20040823 |
| | | | | US 2005-690867P | P | 20050616 |
| | | | | EP 2005-791142 | A | 20050823 |
| | EP 1930011 | A2 | 20080611 | EP 2008-2626 | | 20050823 |
| | EP 1930011 | A3 | 20080618 | | | |

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR

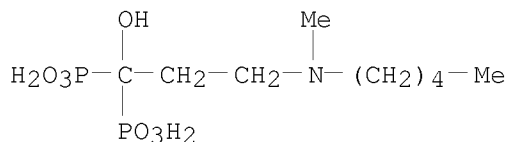
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|-----------------|----|----------|
| US 2004-604026P | P | 20040823 |
| US 2005-690867P | P | 20050616 |
| EP 2005-791142 | A3 | 20050823 |

AB The present invention relates to solid amorphous and crystalline forms of ibandronate sodium. Thus, ibandronate sodium was dissolved in DMSO and 1-butanol was added to it, and the precipitate was isolated by vacuum filtration, washed with 1-butanol and dried at 50° to obtain ibandronate sodium crystal form C.

IT 138844-81-2P
 RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of solid amorphous and crystalline forms of ibandronate sodium)

RN 138844-81-2 CAPLUS

CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt (1:1) (CA INDEX NAME)



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OSC.G 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
 RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2006:11476 CAPLUS

DN 144:94242
 TI Solid and crystalline ibandronic acid
 IN Bayer, Thomas; Dolitzky, Ben-Zion; Lifshitz-Liron, Revital; Perutski, Inna; Pinchasov, Michael
 PA Teva Pharmaceutical Industries Ltd., Israel; Teva Pharmaceutical USA, Inc.
 SO PCT Int. Appl., 67 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---------------|--|----------|-----------------|-------------|
| PI | WO 2006002348 | A2 | 20060105 | WO 2005-US22410 | 20050623 |
| | WO 2006002348 | A3 | 20060504 | | |
| | W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| | RW: | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| | | | | US 2004-582500P | P 20040623 |
| | | | | US 2004-620016P | P 20041018 |
| | | | | US 2005-690868P | P 20050616 |
| CA | 2571433 | A1 | 20060105 | CA 2005-2571433 | 20050623 |
| | | | | US 2004-582500P | P 20040623 |
| | | | | US 2004-620016P | P 20041018 |
| | | | | US 2005-690868P | P 20050616 |
| | | | | WO 2005-US22410 | W 20050623 |
| EP | 1687007 | A2 | 20060809 | EP 2005-763415 | 20050623 |
| | R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU | | | |
| | | | | US 2004-582500P | P 20040623 |
| | | | | US 2004-620016P | P 20041018 |
| | | | | US 2005-690868P | P 20050616 |
| | | | | WO 2005-US22410 | W 20050623 |
| US | 20070161606 | A1 | 20070712 | US 2006-525804 | 20060922 |
| US | 7511174 | B2 | 20090331 | | |
| | | | | US 2004-582500P | P 20040623 |
| | | | | US 2004-620016P | P 20041018 |
| | | | | US 2005-690868P | P 20050616 |
| | | | | US 2005-165481 | B1 20050622 |
| | | | | US 2006-331995 | B1 20060112 |
| IN | 2006DN07758 | A | 20070817 | IN 2006-DN7758 | 20061220 |
| | | | | US 2004-582500P | P 20040623 |
| | | | | WO 2005-US22410 | W 20050623 |
| MX | 2007000087 | A | 20071106 | MX 2007-87 | 20061220 |
| | | | | US 2004-582500P | P 20040623 |
| | | | | US 2004-620016P | P 20041018 |
| | | | | US 2005-690868P | P 20050616 |
| | | | | WO 2005-US22410 | W 20050623 |
| US | 20090023949 | A1 | 20090122 | US 2008-218197 | 20080710 |

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|----------------|----|----------|-----------------|----|----------|
| | | | US 2004-582500P | P | 20040623 |
| | | | US 2004-620016P | P | 20041018 |
| | | | US 2005-690868P | P | 20050616 |
| | | | US 2005-165481 | B1 | 20050622 |
| | | | US 2006-331995 | B1 | 20060112 |
| | | | US 2006-525804 | A3 | 20060922 |
| US 20090069598 | A1 | 20090312 | US 2008-288025 | | 20081015 |
| | | | US 2004-582500P | P | 20040623 |
| | | | US 2004-620016P | P | 20041018 |
| | | | US 2005-690868P | P | 20050616 |
| | | | US 2005-165481 | B1 | 20050622 |
| | | | US 2006-331995 | B1 | 20060112 |
| | | | US 2006-525804 | A3 | 20060922 |

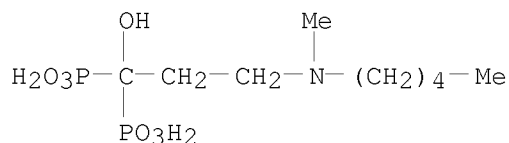
AB Provided are novel crystalline and amorphous forms of ibandronic acid, methods for their preparation, and pharmaceutical compns. containing them.

Also provided are methods for purifying and assaying ibandronic acid in any crystalline form (or amorphous). Amorphous ibandronic acid was prepared by drying a solution and a crystal form S1 prepared from the amorphous form by adding acetone to a solution

IT 138844-81-2P
 RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (solid and crystalline ibandronic acid)

RN 138844-81-2 CAPLUS

CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt (1:1) (CA INDEX NAME)

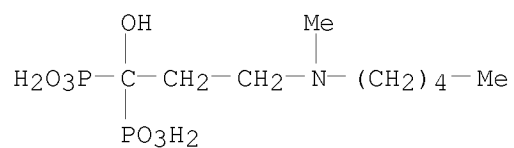


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OSC.G 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)
 RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
 AN 2005:612312 CAPLUS
 DN 143:97528
 TI An improved process for the preparation of alkyl- and aryl-substituted α -hydroxy-1,1-ethanediphosphonic acids and salts thereof by solvent-free reaction of carboxylic acids with phosphorous acid and phosphorus oxychloride
 IN Grassi, Simona; Volante, Anna
 PA Lyogen Limited, Cyprus
 SO PCT Int. Appl., 9 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|--|----------|-----------------|------------|
| PI | WO 2005063779 | A2 | 20050714 | WO 2004-EP14556 | 20041222 |
| | WO 2005063779 | A3 | 20050929 | | |
| | W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| | RW: | BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| | | | | IT 2003-MI2582 | A 20031223 |
| | | | | IT 2004-MI80 | A 20040122 |
| | IT 2004MI0080 | A1 | 20040422 | IT 2004-MI80 | 20040122 |
| | CA 2551230 | A1 | 20050714 | CA 2004-2551230 | 20041222 |
| | | | | IT 2003-MI2582 | A 20031223 |
| | | | | IT 2004-MI80 | A 20040122 |
| | | | | WO 2004-EP14556 | W 20041222 |
| | EP 1716161 | A2 | 20061102 | EP 2004-804152 | 20041222 |
| | R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS | | | |
| | | | | IT 2003-MI2582 | A 20031223 |
| | | | | IT 2004-MI80 | A 20040122 |
| | | | | WO 2004-EP14556 | W 20041222 |
| | US 20070112197 | A1 | 20070517 | US 2006-584022 | 20061025 |
| | | | | IT 2003-MI2582 | A 20031223 |
| | | | | IT 2004-MI80 | A 20040122 |
| | | | | WO 2004-EP14556 | W 20041222 |
| OS | CASREACT 143:97528; MARPAT 143:97528 | | | | |
| AB | α -Hydroxy-1,1-ethanediphosphonic acids R(CH ₂) _m C(OH)[PO(OH) ₂] ₂ [m = 1-8; R = dialkylamino or 5- or 6-membered (hetero)aryl, preferably imidazolyl and pyridinyl], preferably risedronic, zoledronic and ibandronic acids, useful in therapy as inhibitors of bone reabsorption (no data) were prepared by reaction carboxylic acids R(CH ₂) _m COOH (same m, R) with 2-4 equiv of POCl ₃ and 8-12 equiv of H ₃ PO ₃ , preferably the carboxylic acid:POCl ₃ :H ₃ PO ₃ ratio is 1:3:10. In an example, addition of 0.19 mol of POCl ₃ to a mixture of 0.06 mol of (3-pyridinyl)acetic acid and 0.58 mol of H ₃ PO ₃ followed by stirring at 60-70° for 24 h with subsequent aqueous work-up gave 1-hydroxy-2-(3-pyridinyl)-1,1-ethanediphosphonic acid (risedronic acid) in 60% yield. Amorphous monosodium salt of 1-hydroxy-2-[(methyl)(pentyl)amino]-1,1-1,1-ethanediphosphonic acid (monosodium ibandronate), useful in the pharmaceutical use due of its increased bioavailability (no data) was prepared by neutralization of 10 g of analogously prepared ibandronic acid in 200 mL of water by 1M NaOH to pH 4.3-4.4 and lyophilization of the resulting solution | | | | |
| IT | 138844-81-2DP, amorphous RL: SPN (Synthetic preparation); PREP (Preparation) (improved process for preparation of α -hydroxy-1,1-ethanediphosphonic acids by solvent-free phosphonation of carboxylic acids by phosphorous acid and phosphorus oxychloride) | | | | |
| RN | 138844-81-2 CAPLUS | | | | |
| CN | Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt (1:1) (CA INDEX NAME) | | | | |



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| OSC.G | 4 | THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS) |
| RE.CNT | 5 | THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD |
| | | ALL CITATIONS AVAILABLE IN THE RE FORMAT |